

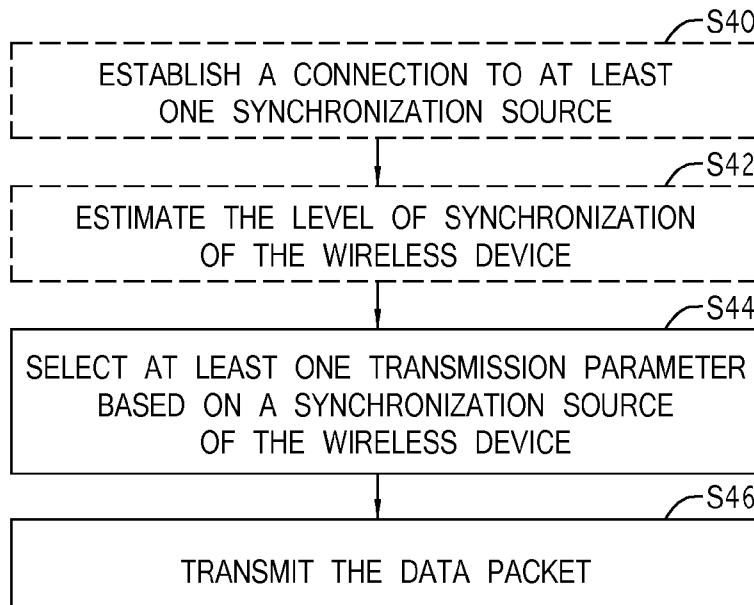


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62/251,418 5 November 2015 (05.11.2015) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYNCHRONIZATION-DEPENDENT TRANSMISSION FOR VEHICLE TO ANYTHING COMMUNICATION



(57) Abstract: A method and a device configured for selecting a transmission parameter in a wireless communication network are disclosed. According to one aspect, at least one transmission parameter is selected based at least upon an estimated level of synchronization for the first wireless device.

FIG. 5

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W56/00 H04L1/00
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
H04W H04L
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2014/192793 A1 (ABRAHAM SANTOSH PAUL [US] ET AL) 10 July 2014 (2014-07-10) abstract paragraphs [0021] - [0025] paragraphs [0045] - [0046] paragraph [0051] paragraphs [0058] - [0059] paragraphs [0064] - [0070] figure 5 claims ----- -/--	1-3,5-9, 22-25, 27-31, 44-47 4,10-14, 26,32-36

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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Date of the actual completion of the international search 9 June 2017	Date of mailing of the international search report 19/06/2017
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Dejonghe, Olivier

INTERNATIONAL SEARCH REPORT

International application No
PCT/SE2016/051069

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2011/151662 A1 (NOKIA CORP [FI]; NENTWIG MARKUS [FI]) 8 December 2011 (2011-12-08) abstract page 1, line 21 - page 2, line 7 page 6, lines 7-25 page 10, line 1 - page 13, line 13 page 16, line 29 - page 17, line 11 figures 5, 9, 10 claims	1-4, 23-26, 45-47
X	US 2015/230194 A1 (YANG MING [US] ET AL) 13 August 2015 (2015-08-13) abstract paragraphs [0056] - [0057] figures 5,6 claims	1-4, 23-26, 45-47
X	WO 2015/139320 A1 (HUAWEI TECH CO LTD [CN]) 24 September 2015 (2015-09-24) abstract & EP 3 113 560 A1 (HUAWEI TECH CO LTD [CN]) 4 January 2017 (2017-01-04) abstract paragraphs [0012] - [0013] figures pages -; claims	1-4, 23-26, 45-47
E	WO 2017/052320 A1 (LG ELECTRONICS INC [KR]) 30 March 2017 (2017-03-30) abstract paragraphs [0012] - [0013] paragraphs [0489] - [0490]	1,15,23, 37,45-47
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Y	abstract paragraphs [0004], [0006], [0009] paragraphs [0023] - [0042] paragraphs [0125] - [0195] figures claims	17,39
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INTERNATIONAL SEARCH REPORT

International application No

PCT/SE2016/051069

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2007/045505 A1 (ERICSSON TELEFON AB L M [SE]; BALDEMAIR ROBERT [SE]; EDVARDSSON MARIA) 26 April 2007 (2007-04-26) abstract page 3, line 33 - page 4, line 20 page 6, line 10 - line 17 page 9, line 24 - page 10, line 2 figures claims	1,15,23, 37,45-47
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Y	EP 1 983 783 A1 (NTT DOCOMO INC [JP]) 22 October 2008 (2008-10-22)	17,39
A	abstract paragraph [0016]	1,15,16, 18-21, 23,37, 38, 40-43, 45-47
X	ERICSSON: "Further discussion on LC_MTC RLM parameters setup", 3GPP DRAFT; FURTHER DISCUSSION ON LC_MTC RLM PARAMETERS SETUP V2, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANC , vol. RAN WG4, no. Singapore; 20141006 - 20141010 29 September 2014 (2014-09-29), XP050872863, Retrieved from the Internet: URL: http://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_72Bis/Docs/ [retrieved on 2014-09-29] paragraph [02.2]	1,15,16, 18,23, 37,38, 40,45-47
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INTERNATIONAL SEARCH REPORT

International application No
PCT/SE2016/051069

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>LG ELECTRONICS: "Discussion on UE procedures for D2DSS transmission and reception", 3GPP DRAFT; R1-144020 DISCUSSION ON PROCEDURES FOR D2DSS TRANSMISSION AND RECEPTION LG, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-A</p> <p>, vol. RAN WG1, no. Ljubljana, Slovenia; 20141006 - 20141010 27 September 2014 (2014-09-27), XP050869684, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_78b/Docs/ [retrieved on 2014-09-27] paragraph [02.2] paragraph [02.3]</p> <p style="text-align: center;">-----</p>	1,15,22, 23,37, 44-47
X	<p>CEWIT: "Comparison of Hierarchical and Flat synchronization procedures", 3GPP DRAFT; D2D_SYNC_PROCEDURE_CEWIT, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE</p> <p>, vol. RAN WG1, no. Dresden, Germany; 20140818 - 20140822 17 August 2014 (2014-08-17), XP050788286, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/Meetings_3GPP_SYNC/RAN1/Docs/ [retrieved on 2014-08-17] paragraph [02.2] paragraph [02.3] paragraph [02.4] figure 2</p> <p style="text-align: center;">-----</p>	1,15,22, 23,37, 44-47

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2016/051069

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-14, 22-36, 44-47

Estimation of the level of synchronization of a wireless device

2. claims: 15-21, 37-43

Selection of a transmission parameter

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/SE2016/051069

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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